

WISCONSIN ENDANGERED RESOURCES REPORT # 117
STATUS OF THE TIMBER WOLF IN WISCONSIN
PERFORMANCE REPORT, 1 JULY 1997 THROUGH 30 JUNE 1998
By Adrian P. Wydeven

SUMMARY

This report covers activities conducted from July 1, 1997 through June 30, 1998. The Wisconsin wolf population was at its reclassification goal of 80+ wolves for the fourth year, and a draft wolf management plan was developed to outline management for a reclassified and delisted wolf population in Wisconsin.

Seventeen wolves from 15 different packs were live-captured and radio-collared in 1997. Thirty-eight radio-collared wolves were monitored during the period. Winter territories of 22 wolves averaged 53 mi². The minimum count for the wolf population in winter 1997-1998 was 178-184 wolves in 47 packs. Territorial wolves occupied an area of 3300 mi² at a density of 1 wolf per 19 mi². Seven radio-collared wolves were found dead during the period including 1 from shooting, 2 from vehicle collisions, 2 mange related, 1 emaciation due to loss of foot, and 1 intraspecific strife. Wolf observations were reported from 25 Wisconsin counties. Wolf disease testing included 9 of 14 positive serum samples for parvovirus, 6 of 14 positive for infectious canine hepatitis, 3 of 14 positive for canine distemper virus, and 1 positive of 10 samples for heartworm. Three of 17 live-captured wolves showed some sign of mange, and two of these died because of the disease during winter. Fifteen cases of wolf depredation occurred during the period and involved 11 calves, 2 deer (deer farm), and 14 dogs (10 killed).

BUREAU OF ENDANGERED RESOURCES
Wisconsin Department of Natural Resources
P.O. Box 7921
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1998

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**RECOVERY OF THE TIMBER WOLF
PERFORMANCE REPORT**

July 1, 1997 - June 30, 1998

Prepared by: Adrian P. Wydeven

- Job: 106.1 Direct educational activities
106.2 Provide legal protection
106.3 Cooperative habitat management
106.4 Monitor statewide wolf population
106.5 Initiate disease abatement
106.6 Evaluate progress
106.7 Implement livestock damage control action
106.8 Coordinate with other agencies
106.9 Citizen participation
106.10 Volunteer programs
106.11 Develop reclassification criteria
106.12 Review translocation

Background: Timber wolves (canis lupus) in the Great Lakes region were originally placed on the first list of Federal Endangered Species in 1967, and was again listed after the enactment of the Federal Endangered Species Act of 1973. The State of Wisconsin listed the timber wolf as a state Endangered Species in 1975. The Wisconsin Department of Natural Resources (DNR) has monitored the state wolf population since 1979. The Wisconsin Timber Wolf Recovery Plan was approved in 1989, and set a minimum downlisting goal (to threatened) of 80 wolves for 3 consecutive years for the State. Federal criteria for wolf reclassification from endangered to threatened are the same in Wisconsin, and federal guidelines for totally delisting is a population goal of 100 wolves for Michigan and Wisconsin for 5 consecutive years. The reclassification goal was first attained in 1995 (83-86 wolves in Wisconsin), and the current population of 178-184 is at the fourth year of this goal. The federal delisting goal for Wisconsin and Michigan was attained in 1994 when the bi-state population was 114; in 1998 the bi-state population was about 320 wolves. The Wisconsin DNR began work on a new wolf management plan in 1996, and the U.S. Fish and Wildlife Service began work on reclassification and delisting of gray wolves throughout the U.S. in fall 1997. The current report covers the period July 1, 1997 through June 30, 1998.

Personnel and funding: Major funding of the Wisconsin population monitoring efforts has been the Federal Aid in Wildlife Restoration Project W-154-R; additional funds for state wolf monitoring have come from U.S. Fish and Wildlife Service Section 6 Endangered Species Grants, funds from the Chequamegon and Nicolet National Forest, Wisconsin Endangered

Resources Fund, Timber Wolf Alliance (TWA) Adopt-A-Wolf Pack Program, and private donations. The Wisconsin Department of Transportation (WDOT) has provided funding for the Highway 53 Wolf Study in northwest Wisconsin, which has been of major assistance to state wolf population monitoring efforts.

Adrian Wydeven was the ecologist in charge of the project, with extensive assistance from project wolf technician Ron Schultz. Bruce Kohn has conducted research within the Highway 53 Wolf Study with help from Jim Ashbrenner and Paul Keenlance. Aerial monitoring of wolves was done by DNR pilots Phil Miller, Paul Anderson, Ray Marvin, and Joe Sprenger. Wolf population monitoring in central Wisconsin is coordinated by Dick Thiel with assistance from Wayne Hall. Health monitoring was conducted by Kerry Beheler-Amass, and necropsies on dead wolves were done by Dr. Nancy Thomas of the National Wildlife Health Lab. Wolf depredation control activities were conducted by personnel from USDA-APHIS-Wildlife Services including Bob Willging, Kelly Thiel, Ed Zyzdik, Buck Follis, and Jim Rollman. Sarah Boles conducted track surveys in northwest Wisconsin and coordinated volunteer surveys. Randy Jurewicz coordinated policy and budget support, and arranged transportation for wolf carcasses. Assistance was also provided by other DNR personnel, other agencies, and many volunteers.

JOB 106.1 DIRECT EDUCATIONAL ACTIVITIES

The project ecologist (Wydeven) and technician (Schultz) provided training for 67 people at TWA workshops in August 1997 and January 1998, and four TWA advisory committees were attended. About 40 volunteer trackers were trained at a workshop in December 1996. Summer wolf survey and winter wolf survey reports were prepared, along with 2 minor progress reports. Wolf population information was prepared for Wisconsin Wildlife Surveys, a draft wolf management plan was developed with the Wisconsin wolf advisory committee, and a wolf issues report was published and distributed in the fall.

JOB 106.2 PROVIDE ADDED LEGAL PROTECTION FOR WOLVES

Areas closed to coyote hunting during the firearm deer season were carefully monitored. News releases on the coyote closed zone was published in state papers. Dick Thiel, Wayne Hall, other Wildlife Management personnel, and volunteers posted signs and talked to hunters throughout central Wisconsin in areas open to coyote hunting during the firearm deer season. Project personnel provided assistance to Law Enforcement on the investigation of 3 wolf shootings, but no suspects were found.

JOB 106.3 COOPERATIVELY MANAGE HABITAT WITH LANDOWNERS

Comments and management recommendations were given to Nicolet and Chequamegon National Forests on project plans that potentially impacted wolf habitat.

A cooperative research project has been ongoing since 1992 with Wisconsin Department of Transportation. The project is examining impact of highway development on wolf activity.

Bruce Kohn has headed up the research and has had 4 M.S. graduate studies through University Wisconsin-Stevens Point conducted in the project. Other project personnel have assisted with dealing with depredation problems, and investigating wolf mortality. The project should be completed within two years after completion of the highway. Research from this study will help in planning future highway developments, and help provide guidelines for reducing impacts on wolves and other large mammals.

JOB 106.4 MONITOR STATEWIDE WOLF POPULATION

Seventeen wolves were live-captured in Wisconsin in 1997 and radio-collared; 2 were recaptured from previous years and one was trapped twice in 1997 (Table 1). Captured wolves were from 15 different packs and 3 became lone wolves during the period. Wolves captured included 7 captured as part of the Highway 53 Study (155M, 174F, 265M, 268M, 268M, 277M, 278M, and 724F), 2 caught by USDA-Wildlife Services on a depredation complaint (195F and 242M), and 8 captured as part of the statewide monitoring program (239F, 240F, 241F, 243F, 244F, 245F, 275F, and 276M). Wolf captures included 3 adult males (\bar{x} wt 85 lbs), 5 adult females (\bar{x} wt of 4 was 72 lbs), 3 yearling males (\bar{x} wt = 68 lbs), 3 yearling females (\bar{x} wt = 50 lbs), 1 pup male (32 lbs), and 2 pup females (\bar{x} wt = 20 lbs). One of the female pups was caught initially on June 23 at 19 pounds but by November 20 weighed 60 pounds. A total of 620 trap nights were used to capture 8 wolves outside the Highway 53 Study area (\bar{x} = 77.5 trap nights per wolf).

At least 47 wolf territories were identified in Wisconsin in winter 1997-1998 and most probably were breeding packs (Figure 1). Forty-one wolf territories occurred in northwest and northcentral Wisconsin, and 6 territories occurred in central Wisconsin. No wolf packs were found in northeast Wisconsin, although translocated wolf 242M was monitored in northern Forest County and eastern Oneida County. Wolf territories occurred in portions of 12 northern counties and 4 counties in the Central Forest.

A total of 38 wolves were monitored during the study period (Table 2). Collared wolves were monitored in 23 of the state's wolf packs. Three wolves were mostly loners while monitored, although wolf 242M became a loner after translocation across the state. Sex-age composition of monitored wolves included 10 adult males, 15 adult females, 5 yearling males, 5 yearling females, 1 pup male and 2 pup females (age during the majority of the study period except wolves captured since April 1997 are listed by age at capture).

Mean winter home range size averaged 53 mi² for 22 wolves. The average home range for 11 territorial adults located 25 or more times was 51 mi². The largest home range was 121 mi² for 267M of the Empire Pack, and the smallest home range (adult with at least 25 locations) was 24 mi² for female 724F of the Chase Brook Pack.

Dispersing Wolves:

Wolf 194F had dispersed from northern Washburn County in May 22, 1997 and was killed on Highway 51, 104 miles to the southeast in Lincoln County on August 28, 1998. This was the first time a wolf from Douglas County (original home in Crotte Creek Pack) was found to have moved into Lincoln County.

Wolf 239F had been caught in the Thornapple River Pack on June 6, 1997 in Sawyer County. The wolf spent much time along Highway 70 west of Oxbo in August and September. She dispersed out of the Thornapple River Pack area after October 8, 1997, heading north and northwestward. She was shot to death near Herbster, Bayfield County on December 20, and 70 miles from her original home.

Wolf 288F was caught in the Frog Creek area of Washburn County on May 22, 1998, but moved as much as 13 miles to the north into Douglas County in June. It perhaps dispersed from the Frog Creek Pack or was possibly caught in the process of dispersal when caught. It did not seem to settle down during the study period.

Wolf 265M, an adult male from the Stuntz Brook Pack in northern Washburn County dispersed after November 4, 1997. He was found dead on April 5, 1998, near Cameron in Barron County but probably had died several weeks earlier. He had died from emaciation caused by loss of his left hind leg due to some type of accident.

Wolf 266F, a two-year-old female from the Crotte Creek Pack formed a new territory east of her original territory near the Douglas County Wildlife Area. The Bird Sanctuary territory was initially visited in mid-November, and by late December 266F had made a permanent move. The new territory center was 8 miles east of the center of the Crotte Creek territory.

Yearling male 268M dispersed from the Empire Pack to join 2-year-old female 263F of the Truck Trail Pack. The centers of the two packs were 6 miles apart. Wolf 268M joined the Truck Trail Pack on November 26. After 263F disappeared in late March (and probably was killed), wolf 268M traveled widely in Minnesota, 10 miles to the west. By late April 268M was back into the Truck Trail territory.

Wolf 274M from the Wildcat Mound Pack had traveled extensively last year in eastern Jackson and western Wood counties. He rejoined the Wildcat Mound territory from late February 1997 to late October 1997. By mid-November he was spending most of his time in the Scott Flowage territory 15 miles to the southeast with a new mate.

A minimum of 178-184 wolves occurred in 47 territories during winter 1997-1998 (Table 3). Along with the 47 territories or packs, the count also included 6 loners. Average size for wolf groups was 3.7 wolves (range 2 to 8 wolves). Areas covered by wolf territories and adjacent interstitial areas covered about 3300 mi² at a density of 1 wolf/19 mi². Wolf counts were based on 413 radio locations of 18 packs and 3 loners, and involved observations 60 different

wolves. Additional 1619 miles of snow tracking was used to obtain wolf counts in noncollared packs, and in radio collared packs not readily seen from the air.

The 1997-1998 wolf population represented a 20% increase from last year's population of 148-151 wolves. This represents the fourth year that the wolf population has been at the state and federal reclassification goal of 80+ wolves. This also represents the fifth year at the federal delisting goal of 100+ wolves in Wisconsin and Michigan; the combined population was about 320 wolves. The U.S. Fish and Wildlife Service has started work at reclassifying or delisting wolf populations in the area.

Wolf Mortality:

Seven collared wolves were found dead in the field (Table 4). Two wolves died from vehicle collisions, one was shot, two died from mange, one died from intraspecific strife, and one died from emaciation caused by loss of left hind foot from an accident. Therefore 3 or probably 4 were human-caused mortality, suggesting that about half the known mortality was human caused. The crude survival rate of 34 collared yearling and adult wolves was 79%.

Nine noncollared wolves were found dead in the field during the study period. Wolf mortalities included the following: 2 pups probably died from mange/parvovirus July 9 and 10, 1997, in northeast Price county; a yearling male was killed by vehicle collision on July 24 in eastern Sawyer County; a pup was killed by vehicle collision on August 9 near Moose Junction, Douglas County; a yearling male was killed by vehicle collision in eastern Washburn County on November 21; a female pup was killed by vehicle collision in northwest Washburn County on February 3, 1998; a yearling or adult male was found shot in northeast Chippewa County on March 22; a yearling or young adult female wolf was found dead from shooting near Dairyland, Douglas County on April 8, 1998 (possibly wolf 263F); and a yearling or adult male was killed by vehicle collision on Highway 53 south of Minong, Washburn County on June 23, 1998. Overall of 9 noncollared wolves dying, 2 died from disease, 2 died from shootings, and 5 died from vehicle collisions. Mortality of noncollared wolves generally are biased toward human-caused mortality, especially vehicle collision, but does indicate that humans continue to be an important form of mortality. Radio telemetry mortality indicates that about ½ of mortality is probably human caused, but also indicates importance of vehicle collisions.

Table 5 lists all known mortality on radio-collared wolves in Wisconsin and nearby areas of Minnesota from 1979 through June 1998. Overall, human-caused mortality has generally exceeded natural-caused mortality, but during the last 10 years the two have probably been nearly equal. Vehicle collisions have increased as a form of mortality; from October 1979 through June 1992 only 1 collared wolf was found killed by a vehicle out of 27 known mortalities, but from July 1992 through June 1998, 5 of 26 known mortalities were from vehicle collisions.

Estimates of number of pups present in mid-winter was 60 to 72 pups in 29 of 38 packs that could have produced pups. Using the midpoint value of 66 pups, average annual pup survival

was about 33% (66 pups/38 breeding females x 5.2 pups/female). Therefore as many as 67% of pups died before the end of their first year. Known pup mortalities included 2 from disease and 2 from vehicle collisions, but cause of death is difficult to determine during the first 3-4 months when pups are rarely observed or handled.

Statewide Wolf Distribution:

Wolf observations were collected from natural resource agency personnel and private citizens from July 1, 1997, through June 30, 1998. All observations were rated as "probable", "possible", and "not likely". These observations don't provide exact information on the wolf population, but provide information on the distribution and general abundance of wolves, as well as focus survey activity. A total of 224 probable and possible observations were received during the study period (Table 6). The observation rates were 37% higher than last year (163). Wolves were reported from 25 counties, including all counties with breeding packs in the north, but no reports were received for Monroe and Wood counties. Counties with highest report rates were Sawyer (25), Iron (23), Price (22), Ashland (19) and Bayfield (19) counties. The highest report rate for a county without a breeding pack was Vilas County where a pack existed in summer and fall, but broke up by early winter.

JOB 106.5 INITIATE DISEASE ABATEMENT

Disease testing was conducted on 15 different wolves caught in 1997 (Table 7). Exposure to canine parvovirus was detected in 9 of 14 serum samples, and 5 of 10 fecal samples. Parvovirus exposure seems to be increasing in recent years. Other positive disease tests and number of animals tested were as follows: infectious canine hepatitis was 6/14, canine distemper virus 3/14 and heartworm 1/10. Adult female 195F tested positive for heartworm, this was the first positive test on a wild wolf in Wisconsin since 1991. Seventeen captured wolves were examined for likeliness of sarcoptic mange based on physical appearance. One wolf had extensive hair loss (243F), and 2 had moderate hair loss suggesting mange (244F, 276M). Two of these wolves died with mange as a major factor in their death in early winter (243F, 276M). Two pups from wolf 243F also died, probably from a combination of mange and parvovirus. In general, diseases do not seem to be major limiting factors of wolves, but can be devastating to individual packs such as the Miles Lake group (243F and her pups).

JOB 106.7 IMPLEMENT LIVESTOCK DAMAGE CONTROL ACTIVITIES

Fifteen cases of wolf depredation involving 11 calves, 2 deer (deer farm), and 14 dogs (10 killed) occurred during the study period (Table 8). Nine dogs were killed in 4 wolf pack territories, and 1 was killed by dispersing wolves; 4 of the dog kills occurred within the Chippewa River Pack territory. All dog kills and all but one of the injured dogs occurred in hunting or wildland training situations.

Wolf depredation occurred on 11 calves on 4 different farms. Single kills occurred on 3 farms and up to 8 calves (3 verified and 5 probable depredations) occurred on a farm north of Danbury that also lost 9 calves during the last study period. A yearling male (242M) and adult

female (195F) were captured on the farm north of Danbury in late June 1997; the female was relocated to her 3 pups at a rendezvous site 5 miles to the east, and the male was translocated 170 miles across the state to northern Forest County. Diversionary feeding of deer carcasses was used to keep 195F and her pups off the farm. One month after 195F had been trapped off the farm, wolf 724F of the nearby Chase Brook Pack moved onto the farm, probably establishing a rendezvous site on the western edge of the farm and adjacent county forest land. Although additional depredations were not detected, at the end of fall the farmers found 21 more missing calves.

In spring 1998 wolf 724F and her pack mates killed at least 3 more calves, and another 5 calves disappeared at the same time period on the Danbury farm. Three wolves were trapped; 246M and 281M were moved 170 miles to Forest County, but 724F was returned 3 miles away to her den. Diversionary feeding, and a dog shock collar were used to keep 724F off the farm during most of June and into July. Volunteers Mirjam Metthe, Lesa Skuldt, and Northland College students intensely monitored this pack from late January to late August.

Recent increases in wolf depredation were probably due to a combination of factors. The increase in the wolf population is probably one of the factors in increased depredations. High rates of bear-dog hunting and training may be occurring because of the high bear population and large numbers of harvest or kill permits. Mild winter conditions may have made hunting more difficult for wolves, and perhaps encouraged depredations on beagles in late winter and calves in early spring. Overall depredation rates continue to be relatively low. Only 4 of 47 packs caused death of dogs, and only 3 packs were involved in depredation on calves. One beagle depredation and death of 2 deer (deer farm) were probably caused by loner or dispersing wolves.

JOB 106.6 EVALUATE PROGRESS

The Wisconsin wolf advisory committee has worked extensively over the last year to develop a new wolf management plan in recognition of the success of wolf recovery efforts in the state. The wolf advisory committee met on the following days July 23, 1997; November 19, 1997; January 13, 1998; March 25, 1998; and June 10, 1998. Smaller subcommittees of the wolf advisory committee met on the following dates to develop the plan: January 23, February 4-5, February 12, February 19-20, April 2, and April 6. A draft wolf plan was published for 90-day public review on May 10, 1998.

Currently the Wisconsin wolf population has been at its goal (80+) for reclassifying from endangered to threatened for 4 years. The federal guidelines for delisting (100+ wolves in Wisconsin and Michigan) have been met for the last 5 years, and the Michigan and Wisconsin population is currently 320 wolves. The U.S. Fish and Wildlife Service began work on reclassification in fall 1997, but on June 19, 1998, director Jamie Clark announced federal intentions to proceed directly to delist wolves in Wisconsin and most portions of the eastern U.S. A formal proposal would be published in fall 1998. Currently the Wisconsin DNR is evaluating the suitability of federal delisting for Wisconsin.

JOB 106.8 COORDINATE WOLF MANAGEMENT WITH OTHER AGENCIES

The project ecologist serves on the federal recovery team for Gray Wolves in Eastern United States; although no formal meetings were held, several correspondences occurred during the study period. Five state advisory committee meetings were held and these included involvement by USDA-APHIS-Wildlife Services, Great Lakes Indian Fish and Wildlife Commission, U.S. Forest Service, U.S. Fish and Wildlife Service, County Forests as well as DNR personnel. The project ecologists attended several meetings for wolf management planning in Minnesota including October 16, 1997; January 13, 1998; April 17 and June 13. Other interagency meetings attended included: meeting in Quebec with provincial and U.S. biologist to discuss wolf recovery in NE U.S. - October 23, 1998; wolf conference in Keene, New Hampshire - October 25; Midwest Fish and Wildlife Conference, Milwaukee - December 7-10; meeting with Swedish hunters and biologist to discuss wolf recovery in Sweden on March 30, 1998; and U.S. Fish and Wildlife Service news conference in Lake Forest, Minnesota on June 29, 1998. Meetings were held with groups to discuss the new wolf plan included: Conservation Congress May 7-8; northern wildlife managers May 19; and Menominee Tribe June 26.

JOB 106.9 CITIZEN PARTICIPATION

Talks and presentations were given to 1529 people at 37 occasions by Wydeven. Presentations were also given by Ron Schultz, Sheri Buller, Dick Thiel, Randy Jurewicz, Sarah Boles, and other DNR personnel.

In September 1997 a report on public issues and concerns on wolf management was sent out to over 1000 people. Eight public meetings were held across the state to get input on the draft wolf plan from June 1 through 11, and these were attended by about 300 people. Copies of the draft wolf plan were sent to over 1000 people and the media release on the plan was sent to over 1200 media sources.

JOB 106.10 VOLUNTEER PROGRAM ACTIVITIES

Over 19 volunteers assisted on DNR wolf population monitoring. More than 85 people assisted on volunteer carnivore track surveys across northern and central Wisconsin. Sixty-seven people attended two training sessions for TWA volunteers and 40 people attended a training session for volunteer trackers.

JOB 106.11 DEVELOP RECLASSIFYING CRITERIA

The draft wolf plan presented on May 10 had a Wisconsin wolf population goal of 300 to 500 wolves. Criteria for state delisting was set at a population of 300 wolves maintained for 3 years. The population goal was based on Geographic Information System analysis of potential wolf habitat and Population Viability Analysis. The population goal was discussed with the

public at meetings in May and June. Currently a large number of people seem to reject the goal, and some modifications of the goal may be necessary in the future to accommodate social concerns.

JOB 106.12 REVIEW TRANSLOCATION

The success of wolf recovery in Wisconsin minimized the need to use translocation for building the state wolf population. Translocation is currently being used only for relocating depredating wolves. Last year a yearling male (242M) was translocated to northeast Wisconsin from Burnett county, and in May 1998 two additional male wolves were moved to the area from northwest Wisconsin.

Some translocating of wolves may be useful to future wolf management to move depredators and get better distribution of wolves across areas of suitable habitat. Wolf packs have not readily established in northeast Wisconsin despite extensive areas of suitable habitat. Translocations may also be useful in maintaining population viability in small wolf populations that become too isolated as may occur with central Wisconsin wolves. Potential use of translocations will be examined in the review of the new wolf management plan.

Table 1. Capture data on wolves caught in Wisconsin in 1997.

Date	Weight (lbs)	Sex	Age ^a	Wolf #	Pack/Area	County
05/06/97	75	M	A	W155	Moose Road	Douglas
05/12/97	52	F	Y	W174	Truck Trail	Douglas
06/28/97	78	F	A	W195 ^b	Riverside	Burnett
06/06/97	46	F	Y	W239	Thornapple River/ Disperser	Sawyer
06/21/97	52	F	Y	W240	Torch River	Ashland
11/20/97	19/60	F	P	W241 ^c	Hell Hole Creek	Ashland
06/28/97	70	M	Y	W242	Riverside/Loner	Forest
07/21/97	78	F	A	W243	Miles Lake	Price
07/23/97	60	F	A	W244	North Willow	Oneida
07/30/97	22	F	P	W245	Bootjack Lake	Oneida
05/27/97	94	M	A	W265	Stuntz Brook/Disperser	Washburn
06/11/97	78	M	Y	W268 ^d	Empire/Truck Trail	Douglas
05/12/97	70	F	A	W275	Bear Bluff	Juneau
05/23/97	50	M	Y	W276	Tupper Creek	Sawyer
06/10/97	86	M	A	W277	Crotte Creek	Douglas
09/07/97	32	M	P	W278	Riverside	Burnett
05/28/97	65	F	A	W724	Chase Brook	Douglas/Burnett

^a Age at time of capture: P=Pup (< 1 yr); Y=Yearling (> 1 and < 2 yrs); A=Adult (≥2 yrs)

^b Recaptured wolf; first captured 5/11/95

^c Recaptured wolf; first captured 6/23/97 as a 19 lb. pup, too small to collar

^d Recaptured wolf; first captured 8/28/96

Table 2. Radio telemetry data on wolves monitored from July 1, 1997 - June 30, 1998 in Wisconsin.

Wolf # & Sex	Age ^a	Pack ^b	Date Captured	Last Date	# of Locations ^c	Winter Territory Size (mi ²)	# of Wolves in Territory ^d
002F	Y	Bear Bluff	05/10/98	Ongoing	8	NE ^e	5-6
155M	A	Moose Road	05/06/97	Ongoing	116	67	5
174F	Y	Truck Trail	05/12/97	10/16/97*	44	NE	3
187F	Y	Moose Road	07/30/94	08/05/97*	292	NE	5
194F	A	Disperser	06/16/94	08/28/97**	308	NE	-
195F	A	Riverside	05/11/95 ^f	08/25/97	231	NE	3
210F	A	Moose Lake	05/32/96	Ongoing	205	51	4
225F	Y	Bootjack Lake	05/25/93	02/10/98*	190	44	5
229F	Y	Augustine Lake	07/09/93	10/29/97 ^g	248	NE	3
230M	P	Moose Road	09/05/93	08/05/97*	411	NE	5
237F	Y	Price Creek	05/04/95	Ongoing	174	39	2-3
240F	Y	Torch River	06/21/97	Ongoing	54	59	4
241F	P	Hell Hole Creek	11/20/97 ^h	Ongoing	32	80	6
242M	Y	Loner	06/28/97	Ongoing	12	?	1
243F	A	Miles Lake	07/21/97	12/17/97**	21	26	1
244F	A	North Willow	07/30/97	Ongoing	35	19	8
245F	P	Bootjack Lake	07/30/97	Ongoing	38	44	5
246M	A	Chase Brook	04/11/98	05/15/98*	4	NE	4
253F	A	Pine Lake	06/12/95	09/24/97*	124	NE	2
258F	A	Torch River	06/13/96	03/11/98**	93	58	4
259F	Y	Smoky Hill	07/15/96	Ongoing	106	91	3
263F	Y	Truck Trail	07/15/96	03/30/98*	175	78	3
265M	A	Stuntz Brook /Disperser	05/27/97	04/05/98**	46	NE	5
266F	Y	Bird Sanctuary	08/07/96	Ongoing	190	31	2
267M	A	Empire	08/28/96	Ongoing	180	121	5
268M	Y	Truck Trail	06/11/97	Ongoing	101	58	3
274M	A	Scott Flowage	08/28/96	Ongoing	105	15	2
275F	A	Bear Bluff	05/12/97	Ongoing	57	50	5-6
276M	Y	Tupper Creek	05/23/97	01/15/98**	36	38	5
277M	A	Crotte Creek	06/10/97	04/02/98*	79	40	7
278M	P	Riverside	09/07/97	06/04/98*	75	78	3
279F	Y	Stuntz Brook	05/13/98	Ongoing	14	NE	5
280M	Y	Crotte Creek	05/13/98	Ongoing	14	NE	7

Table 2. (cont.)

281M	Y	Chase Brook/ Relocated	05/12/98	Ongoing	9	NE	4
282F	Y	Little Rice River	05/10/98	Ongoing	4	NE	3
288F	Y	Frog Creek ? Loner	05/22/98	Ongoing	8	NE	2
289F	A	Shoberg Lake	06/05/98	06/08/98*	1	NE	4
724F	A	Chase Brook	05/28/97	Ongoing	110	24	4

^a Age at time of capture (P=Pup, Y=Yearling, A=Adult).

^b Pack during winter of the study period.

^c Total locations from the time of capture.

^d Number of wolves in pack during midwinter.

^e NE=No Estimate

^f Date of first capture; recaptured at depredating site in Burnett County on 06/28/97.

^g Recaptured on 07/17/98.

^h Recaptured wolf; first captured as a pup in Douglas County on 08/28/96.

*Lost signal

**Died

Table 3. Minimum estimation of Wisconsin's timber wolf population in winter 1997-1998.

Pack/Area/Wolf	Counties	No. of Wolves	Evidence ^a
Polk Loner	Polk	1	T
Crex Meadows	Burnett	3	T
Riverside	Douglas	3	R&T
Chase Brook	Douglas	4*	R
Moose Road	Douglas	5*	R
Truck Trail	Douglas	3*	R
Empire	Douglas	5*	R
Crotte Creek	Douglas	7*	R
Stuntz Brook	Washburn	5*	T
Bird Sanctuary	Douglas	2*	R
Moose Lake	Douglas	4*	R
Mud Creek	Douglas	4*	T
Frog Creek	Washburn	2*	T
Orienta Falls	Bayfield	4*	T
Flag River	Bayfield	3*	T
Rainbow Lake	Bayfield	2*	T
Pre-emption Creek	Bayfield	3*	T
Smoky Hill	Bayfield	3*	R
Ghost Lake	Bayfield/Sawyer	3*	T
Hell Hole Creek	Ashland/Bayfield	6*	R&T
Black Lake	Sawyer/Ashland	3*	T
Torch River	Ashland	4* ^b	R
Log Creek	Ashland/Sawyer	6*	T
Thornapple River	Sawyer	2-3*	T
Price Creek	Price	2-3*	R
Tupper Creek	Sawyer	5*	T
Hay Stack	Sawyer/Rusk	3*	T
Kidrick Swamp	Taylor	2-3*	T
West Firelane	Ashland	4*	T
Morrison Creek	Ashland/Iron	3-4*	T
Potato River	Ashland	2*	T
Augustine Lake	Ashland/Iron	3*	T
O'Brien Lake	Iron	5*	T
Underwood Loner	Iron	1	T
Pine Lake	Iron	2*	T
Chippewa River	Ashland/Iron	5*	T
Hoffman Lake	Ashland/Iron	2*	T
Miles Lake Loner	Vilas	1	T
Wilson Flowage	Price	2*	T
Bootjack Lake	Price/Oneida	5*	T
North Willow	Oneida	8*	R
Little Rice River	Oneida	3*	T
Averill Creek	Lincoln	4+*	T
Ranger Island	Lincoln	3-4*	T
Wolf 242M	Oneida/Forest	1	T

Table 3. (cont.)

Wildcat Mound	Jackson	6*	T
Waterbury Rd.	Jackson	3*	T
East Pray Loner	Jackson	1	T
Sandhill Wildlife	Wood	3	T
Seneca Loner	Wood	1	T
Bear Bluff	Jackson	5-6*	R
South Bluff	Wood/Juneau	4*	T
Scott Flowage	Monroe/Jackson	2	R
Totals		178-184	

47 groups, 43 breeding packs = 3.7 wolf/group
6 loners

^aEvidence: R = radio-telemetry surveys
T = track and sign surveys

^bBreeding occurred but female died in March

*Pack with breeding activity

Table 4. Mortality of radio-collared wolves in Wisconsin from July 1, 1997 to June 30, 1998.

Wolf # & Sex	Age	Date Captured	Date Died	County Died	Cause of Death
194M	A	06/16/94	08/28/97	Lincoln	Vehicle Collision
195F	A	05/11/95	08/25/97	Burnett	Vehicle Collision
239F	Y	05/06/97	12/20/97	Bayfield	Shooting
243F	A	07/12/97	12/17/97	Price	Mange
258F	A	07/13/96	04/12/98	Ashland	Other wolves
265M	A	05/27/97	04/05/98	Barron	Injury-Emaciation
276M	Y	05/23/97	01/15/98	Sawyer	Mange

* Age at time of capture

Table 5. Mortality summary of radio-collared wolves in Wisconsin and adjacent areas of Minnesota from October 1979 - June 1998.

	Cause of Death	Number	% Known Mortality
Human Causes	Capture Related	1	2%
	Shot Wound	17	32%
	Trapped	3	6%
	Vehicle Collision	6	12%
	<u>Unknown Human Causes</u>	<u>4</u>	<u>8%</u>
	Total Human Causes	31	58%
Natural Causes	Birthing Complications	1	2%
	Disease	11	19%
	Killed by Other Wolves	7	13%
	<u>Unknown Natural Causes</u>	<u>3</u>	<u>6%</u>
	Total Natural Causes	22	42%
Totals	<u>Known Mortality</u>	<u>53</u>	<u>100%</u>
	Unknown Mortality	5	
	Total Mortality	58	

* 17 wolves shot by firearm; 1 wolf by bow and arrow

Table 6. Wolf observations reported by natural resource agency personnel and private citizens in Wisconsin in July 1997 - June 1998.

County	Sightings	Wolves Seen	Track or Sign Observations	Total Observations
Ashland*	11	16	8	19
Bayfield*	19	28	-	19
Burnett*	5	8	1	6
Chippewa	1	2	-	1
Douglas*	11	24	3	14
Florence	1	1	-	1
Forest	2	2	-	2
Green	1	2	-	1
Iowa	2	2	-	2
Iron*	17	27	6	23
Jackson*	1	1	5	6
Juneau*	1	1	-	1
Langlade	3	3	-	3
Lincoln*	2	2	-	2
Marathon	5	6	-	5
Marinette	6	9	-	6
Oneida*	12	19	2	14
Portage	1	1	-	1
Price*	17	24	5	22
Rock	1	1	-	1
Rusk*	6	10	3	9
Sawyer*	23	40	2	25
Taylor*	-	-	2	2
Vilas	9	10	-	9
Washburn*	3	5	-	3
Totals	189	304	35	224

* Counties with known breeding packs during winter of this study period. Wood County also had a breeding pack, although no observations were reported.

Table 7. Disease test of wolves in Wisconsin in 1997.

Wolf # & Sex	Age	Date	Serum CPV	Fecal CPV	ICH	CDV	HW
155M	A	05/06/97	--	1:32	--	--	--
174F	Y	05/12/97	1:160	1:256	1:20	< 1:5	Neg.
195F	A	06/28/97	1:320	1:1024	< 1:5	1:5	Pos.
239F	Y	06/06/97	1:80	--	1:5	1:5	Neg.
240F	Y	06/21/97	1:320	1:128	1:5	1:5	--
241F	P	06/23/97	1:80	1:1024	< 1:5	< 1:5	--
242M	Y	06/28/97	1:160	1:1024	1:20	1:5	--
243F	A	07/21/97	1:80	--	1:5	1:10	--
244F	A	07/23/97	1:160	1:16	1:5	1:5	Neg.
245F	P	07/30/97	--	--	--	--	--
265M	A	05/27/97	1:160	--	< 1:5	< 1:5	Neg.
268M	Y	06/11/97	1:80	1:32	1:10	1:10	Neg.
275F	A	05/12/97	1:160	< 1:8	1:10	1:10	Neg.
276M	Y	05/23/97	1:320	--	1:5	1:5	Neg.
277M	A	06/10/97	1:80	1:32	1:20	1:5	Neg.
278M	P	09/07/97	--	--	--	--	--
724F	A	05/28/97	1:160	--	1:10	< 1:5	Neg.
Positive/Total Tests			9/14	5/10	6/14	3/14	1/10

Disease Tests - Serum CPV = Serum Canine parvovirus: positive \geq 1:160
 Fecal CPV = Fecal canine parvovirus: positive \geq 1:128
 ICH = Infectious canine hepatitis: positive \geq 1:10
 CDV = Canine distemper virus: positive \geq 1:10
 HW = Heartworm; Neg = Negative; Pos = Positive

(Disease test conducted by Kerry Beheler-Amass WDNR Wildlife Diagnostic Lab.)

Table 8. Wolf depredation cases on livestock and pets in Wisconsin July 1997 through June 1998.

Date	Animal Lost	Pack Involved	County	Payments	Other Actions
08/09/97	1 dog (Plowhound)	Log Creek	Ashland	\$2000	None
08/17/97	2 dogs (Walkers)	Chippewa R.	Ashland	\$3000	None
09/20/97	2 dogs (Walkers)	Empire	Douglas	\$3250	None
12/18/97	1 dog - injured	Bear Bluff	Jackson	\$318.50	None
01/04/98	1 dog (Bluetick)	Chippewa R.	Iron	\$1000	None
01/08/98	1 dog - injured	Truck Trail	Douglas	\$46	None
03/14/98	2 dogs - injured	Bear Bluff	Jackson	\$172.67	None
03/16/98	1 dog (Beagle)	Dispersers?	Douglas	No request	None
03/20/98	2 dogs (Beagles)	Kidrick Swamp	Taylor	\$1200	None
04/02/98	1 dog (Beagle)	Chippewa R.	Ashland	\$600	None
04/15/98	1 calf	Log Creek?	Price	\$395	None
04/28/98	1 calf	Chase Brook?	Burnett	\$543	None
05/03/98+	8 calves	Chase Brook	Burnett	Pending	3 wolves livetrapped 2 wolves translocated
05/03/98	1 calf	Hay Stack	Rusk	\$500	None
05/09/98	2 deer ¹	Loner	Bayfield	None	Trapping attempted
15 cases		8 packs 2 loners/dispersers	9 counties	\$13,024.82	3 wolves livetrapped 2 wolves translocated
11 calves killed					
2 deer killed					
10 dogs killed					
4 dogs injured					

¹ Licensed deer farm

